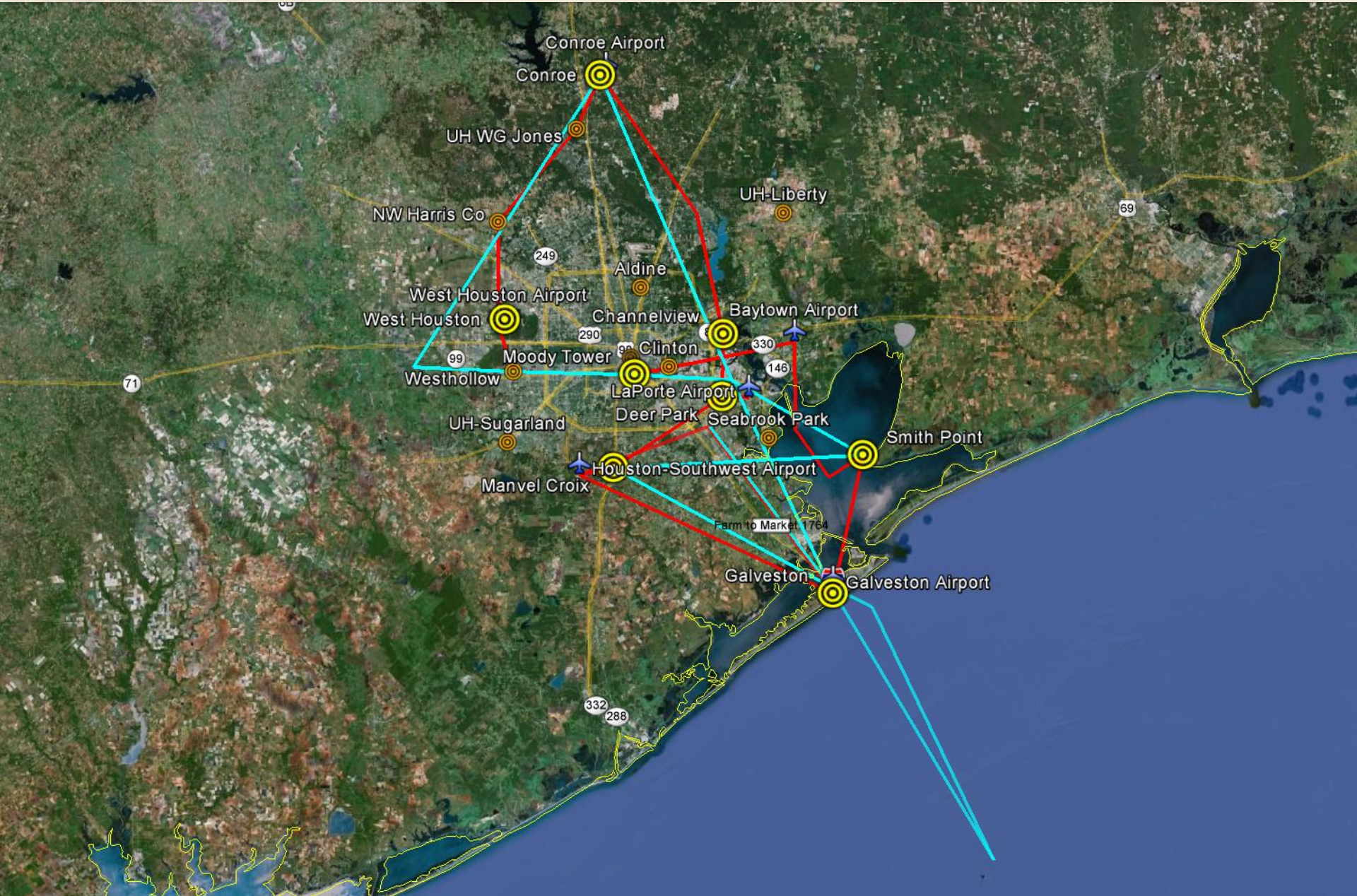
Webex Agenda, 30 May 2013

1. Houston Deployment Plans and Update
2. California data
3. Publications

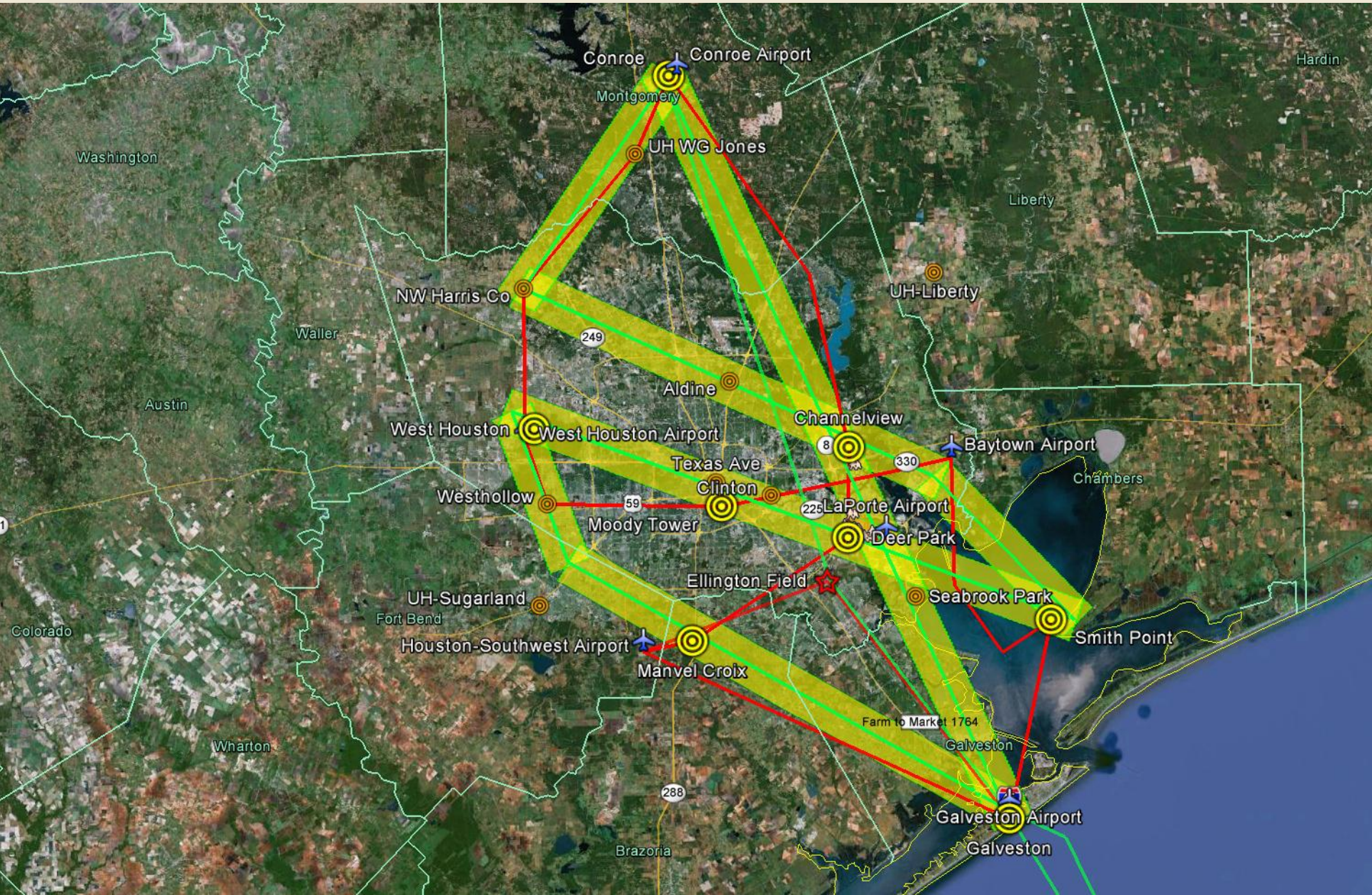
Observing Strategy for Houston



DISCOVER-AQ

Alternative King Air Flight Path

(with estimated ACAM swath depicted)



DISCOVER-AQ

Ground Site Plans

Changes since last telecon are shown in red

Site Name	Spiral Y/N	Pandora Y/N	Aeronet Y/N	Missed Approach	Mobile Hook-up	other DISCOVER-AQ Augmentation
Aldine			Y			
Channelview	Y	Y	Y	N	Y	
Clinton	N	Y	Y	N	N	
Conroe (Airport)	Y	Y	Y	Y	Y	U. Texas – aerosols and NO2
Deer Park	Y	Y	Y	N	N	
Galveston	Y	Y	Y	Y	Y	NOAA Trace gases
LaPorte Airport	N	N	N	Y	Y	EPA Trailer, NOAA Ozone Lidar
Texas Avenue	N	Y	Y	N	N	EPA NO2
Manvel Croix	Y	Y	Y	N	Y	NOAA NO2, Baylor/Rice –neph and hi-vol samplers, NASA Ozone Lidar
Moody Tower	Y	Y(2)	Y	N	N	UMBC Leosphere
NW Harris Co	N	Y	Y	N	N	
Seabrook Park	N	Y	Y	N	N	EPA NO2
Smith Point	Y	Y(2)	Y	N	N	NATIVE, Millersville, UMBC MPL, EPA-NO2, TCEQ Profiler, NOAA radiation
UH Coastal Center	N	N	Y	N	N	Pre-existing Aeronet, room for other instruments
UH Liberty	N	N	Y	N	N	
UH Sugarland	N	N	Y	N	N	
West Houston	Y	Y	Y	N	N	
Baytown Airport	N	N	N	TBD	N	Possible missed approach enroute from Smith Point to Moody Tower
Houston SW Airport	N	N	N	TBD	N	Possible missed approach (8 km west of Manvel Croix)
West Houston Airport	N	N	N	TBD	N	Possible missed approach enroute from Westhollow to NW Harris Co

- *Current requirements have been determined and necessary work defined*
- *Moving forward is subject to approval of access agreements*
- *No new work being considered at this time (can pass requirements to Jim and Mary)*

DISCOVER-AQ

Ground Site Status

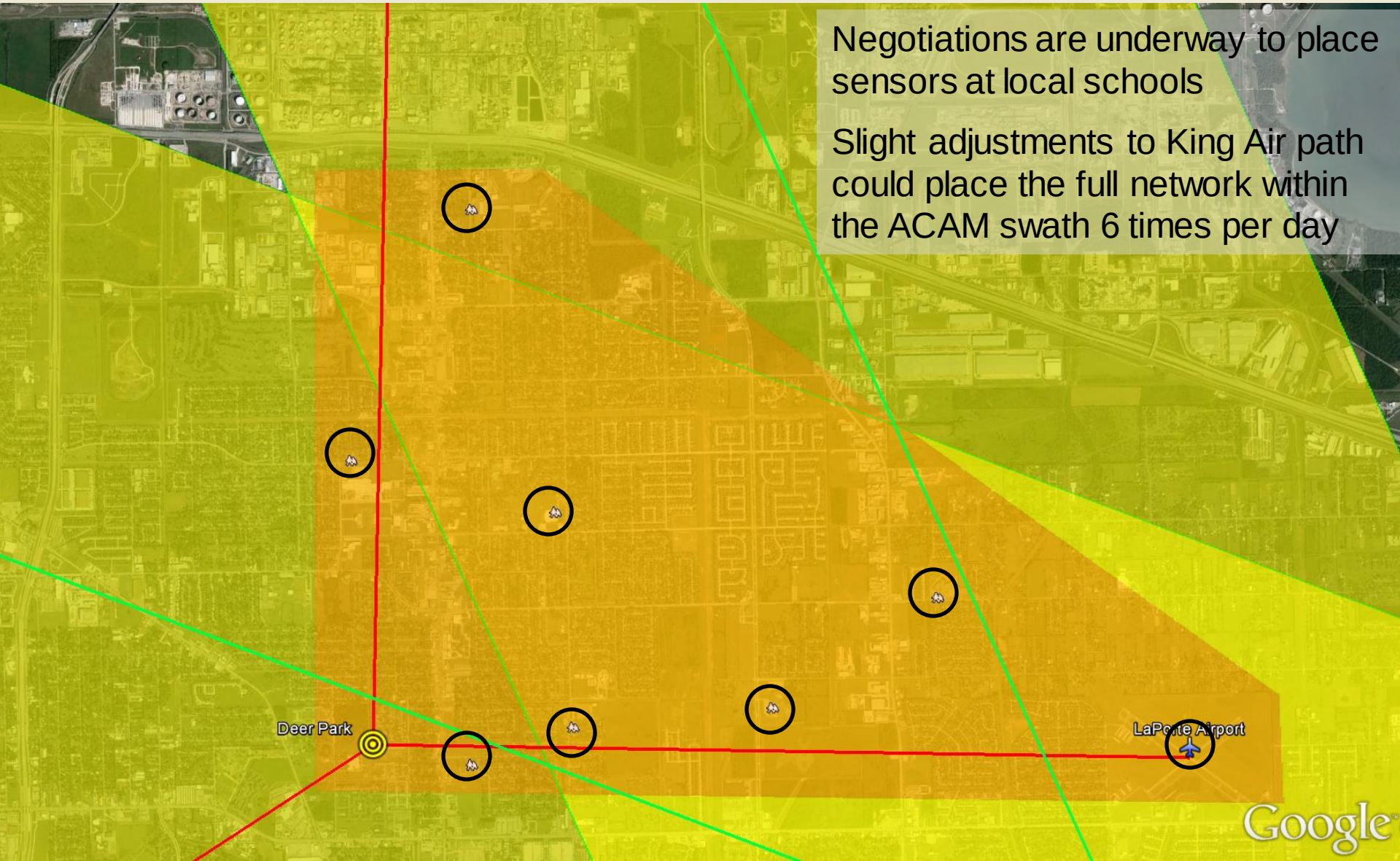
Site Name	Pandora Y/N	Aeronet Y/N	Mobile Hook-up	Access Granted?	Comments
Aldine		Y			Aeronet negotiating directly with school for rooftop emplacement
Channelview	Y	Y	Y		
Clinton	Y	Y	N		
Conroe (Airport)	Y	Y	Y		
Deer Park	Y	Y	N		
Galveston	Y	Y	Y		Site expansion underway
LaPorte Airport	N	N	Y		Site expansion can now proceed
Texas Avenue	Y	Y	N		Still negotiating details with Condo owners; need to talk to City about EPA NO2 measurement details
Manvel Croix	Y	Y	Y		
Moody Tower	Y(2)	Y	N		
NW Harris Co	Y	Y	N		
Seabrook Park	Y	Y	N		Meeting with City Council next Tuesday
Smith Point	Y(2)	Y	N		All details and arrangements should be coordinated through Rich Clark (Millersville University)
UH Coastal Center	N	Y	N		
UH Liberty	N	Y	N		This site complete
UH Sugarland	N	Y	N		This site complete
West Houston	Y	Y	N		Access is for rooftop instruments, still need to discuss possible NO2 measurement from TCEQ at this site

Yellow indicates that intended activities are still on track

Green indicates completion of intended activity or permission

Proposed Network of Small Sensors

Iq Mead and Rod Jones (University of Cambridge) and LandTec, Inc.



Negotiations are underway to place sensors at local schools

Slight adjustments to King Air path could place the full network within the ACAM swath 6 times per day

Details on the sensor

The sensor is the Geotech AQMesh-5

The unit requires no power and operates unattended.

Subsequent to installation, visits would be only on an as needed basis and in many cases may not be necessary at all.

Sensors can be mounted on any pole (sign, flag, fence, etc.)

Installation would be in late August and units would stay in place at least through the end of September and possibly longer at the discretion of the school district.

Units will continuously monitor key pollutants: ozone (O_3), nitrogen oxides (NO and NO_2), carbon monoxide (CO), and sulfur dioxide (SO_2) to extend coverage from the Deer Park site where air quality is monitored by the Texas Commission for Environmental Quality (TCEQ)

Overlap with SEAC^{4}RS

A final decision has been reached on basing SEAC^{4}RS in Houston…thanks to everyone for your patience.

<u>Logistical Issues and Possible Efficiencies:</u>

Travel – There will be two WBS accounts for civil servants and two tasks for contractors/grantees. You will need to be specific with Diane Zeimet regarding which project you are travelling under. Sometimes it may get a little messy, but teams should consider splitting their travel by personnel even if there is some overlap in duties.

The 30-day rule will need to be considered by those working both projects.

Badging – All badging requests for personnel in groups associated with both SEAC4RS and DISCOVER-AQ will be handled by ESPO. We will handle all requests for groups specific to DISCOVER-AQ only. Once we have all of your information compiled, we will remind you of who you need to coordinate with for badging needs.

Foreign National Badging

DISCOVER-AQ	SEAC^{4}RS
Iq Mead (UK)	Armin Wisthaler (Italy)
Gregor Stewart (UK)	Tomas Mikoviny (Slovakia)
Detlef Mueller (Germany)	Markus Müller (Austria)
Eduard Chemyakin (Russia)	Phillipp Eichler (Germany)
Basak Karakut Cevik (Turkey)	Yunsoo Choi (Korea)
Yu Jun Leong (Malaysia)	Petter Weibring (Sweden)
Tara Yakovitch (?)	Suzanne Crumeyrolle (France)
Christoph Senff (?)	Nikolai Balashov (Russia)

Luci will only be assisting with badges for the names listed under DISCOVER-AQ. If you have additional names, we need them ASAP

For those listed under SEAC^{4}RS, please ensure that you have indicated ALL access requirements for both projects (e.g., Wallops)

DISCOVER-AQ

Travel Authority

ALL NASA-sponsored travel is under increased scrutiny and requires your name to be approved for travel through NASA, SSAI, or NIA. If your name is not on this list, then we need to hear from you regarding your team members and travel dates.

NOTE: Names highlighted in yellow are associated with research groups overlapping with SEAC^{4}RS. Civil servants need to take care to charge the appropriate WBS and SSAI travelers need to stipulate with Diane Zeimet which project to assign your travel expenses.

NASA CS

Anderson	Bruce
Beyersdorf	Andreas
Burton	Sharon
Chen	Gao
Cook	Anthony
Crawford	James
Diskin	Glenn
Duncan	Bryan
Ferrare	Richard
Geiger	Jimmy
Harper	David
Hostetler	Chris
Janz	Scott
Kleb	Mary
Martin	Robert
Pickering	Kenneth
Rogers	Raymond
Thompson	Anne
Yang	Melissa
Ziemba	Luke

NIA - sponsored

Mead	Iq
Mikoviny	Tomas
Sachse	Glenn
Wisthaler	Armin

SSAI - sponsored

Abuhassan	Nader
Aknan	Ali
Balashov	Nikolai
Barrick	John
Chemyakin	Eduard
Choi	Yong Hoon
Cohen	Ronald
Crumeyrolle	Suzanne
Duffey	Kaitlin
Eichler	Philipp
Floerchinger	Cody
Flynn	Clare
Fortner	Edward
Fried	Alan
Halliday	Hannah
Harward	Charles
Herman	Jay
Herndon	Scott
Hoff	Raymond
Holloway	John
Hudgins	Charles
Knapp	David
Kowalewski	Matthew
Labow	Gordon
Lin	Jack
Loughner	Christopher
Martins	Doug
Massoli	Paola
McCullough	Kent
Montzka	Denise
Moore	Richard
Mueller	Detlef
Müller	Markus
Nault	Benjamin
Niple	Edward
Pusede	Sally
Rana	Mario
Richter	Dirk
Romer	Paul
Roscioli	Rob
Slate	Thomas
Stauffer	Ryan
Stewart	Gregor
Thornhill	Kenneth
Walega	James
Weibring	Petter
Weinheimer	Andrew
Winstead	Edward
Wooldridge	Paul
Xiong	Sam
Yacovitch	Tara

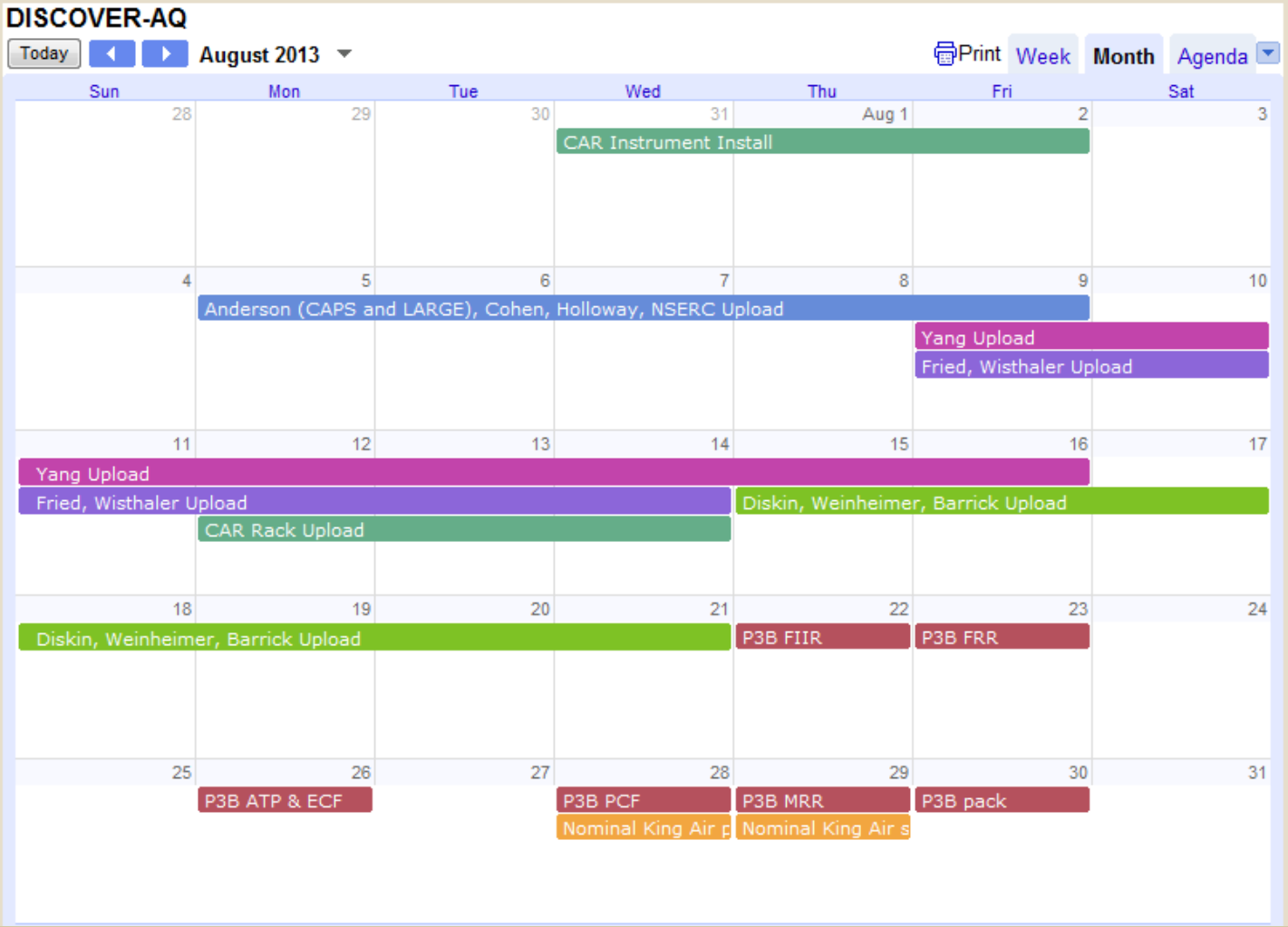
P-3B Integration Schedule

DISCOVER-AQ

Home | Science | Instruments | Participants | Planning | Data | Events | Education | Multimedia

PLANNING » Baltimore-Washington, D.C. 2011 | California 2013 | Texas 2013 | TBA 2014

Reports
Forecasting
Calendar
Hotel
Logistics



Accommodations during P-3B Integration and Download

Tourist season will still be in effect during P-3B integration making it difficult to obtain accommodations within the allowance.

The Wallops Lodging Facility has 9 rooms available throughout the integration and download periods for less than half the cost of a room in Chincoteague. These rooms are available to everyone except foreign nationals, who are required to live off base.

Reservations need to be made quickly to reserve these rooms. Please contact Debbie Toth at 757-824-1697 to make you reservation and identify yourself with the DISCOVER-AQ project.

(Many of you have made placeholder reservations, but given the expected demand, it is important to go ahead and firm up your plans now. There are still rooms available and some groups have not yet made reservations.)

Accommodations in Houston

We have secured a room block at the Homewood Suites at well below the per diem rate ($99 per night versus $109 per diem).

You should begin making your reservations now and identify yourself with the NASA DISCOVER-AQ project.

For those of you participating in both SEAC^{4}RS and DISCOVER-AQ you may succeed in getting the lower rate for your entire stay, but it is not guaranteed.

If you are working on SEAC^{4}RS only, we prefer that you not request to be part of the room block or seek accommodation elsewhere since we would like to preserve this preferred rate for DISCOVER-AQ.

Accommodations in Houston

Homewood Suites by Hilton-Houston Clear Lake **Phone: 281-486-7677**
401 Bay Area Blvd., Houston, Texas 77058
Arrival Date: September 2, 2013 / Departure Date: October 1, 2013

Number of Rooms: 40

Room Type and Rate: One Bedroom Suite with a king bed @ $99.00 per night plus tax (Note: All suites include a sofa sleeper in the living area.) Room rates are quoted exclusive of local taxes and fees, currently 17%. If you are tax exempt, then each guest will be asked to sign federal tax exemption form at check in. **(Federal employees, please do this!!!!!)**

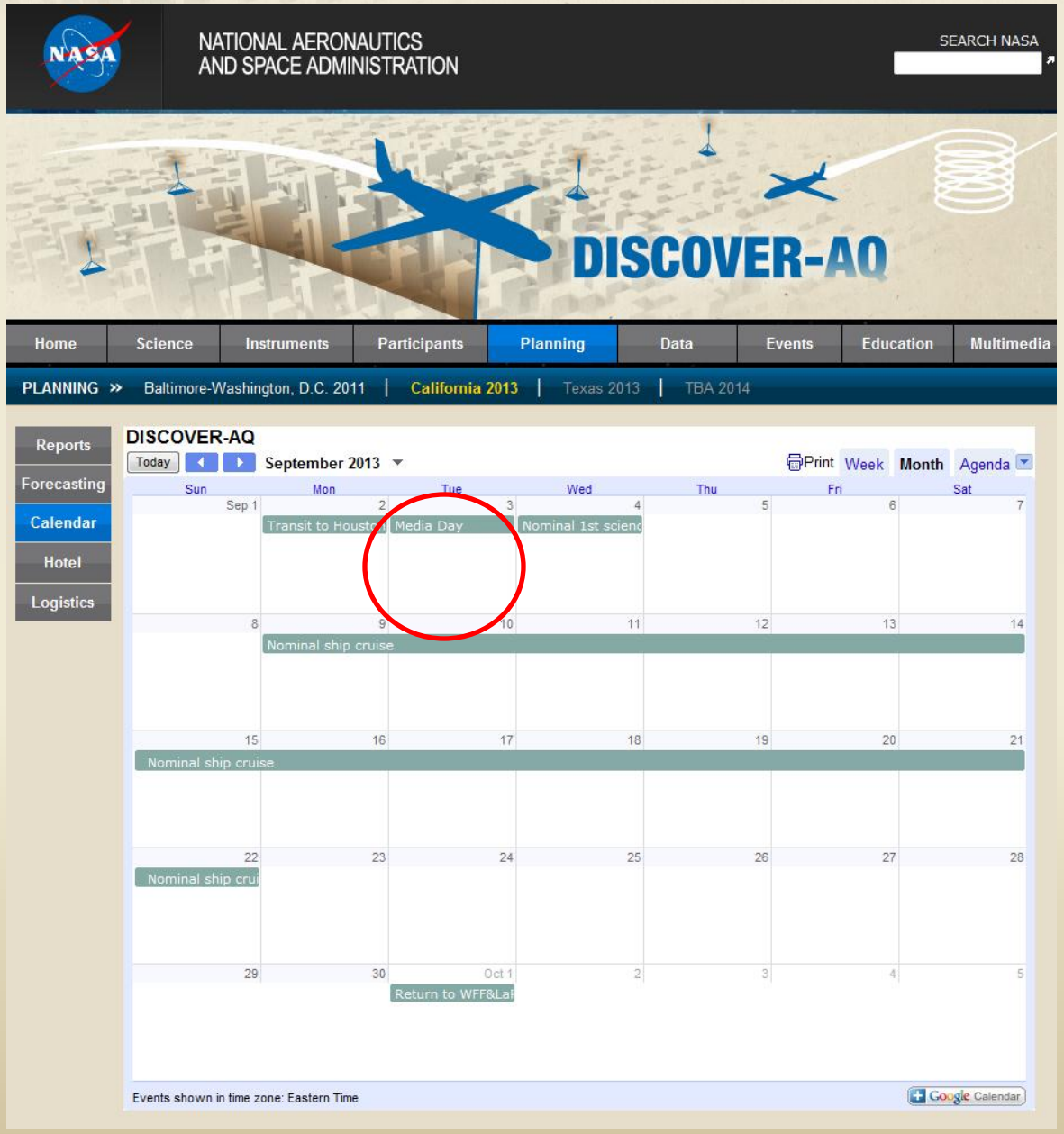
Reservations/Payment:
To make a reservation, please call the hotel directly and ask for the NASA Discover-AQ room block. All reservations are required to be guaranteed with a credit card.

Cancellation Policy:
The room block will be released on August 18, 2013 and rooms at the above rate will be available on a rate and space basis. If it becomes necessary to cancel an individual reservation, to avoid a one night's charge of room and tax the reservation must be cancelled 6 pm 24 hours prior to the arrival date.

CHECK-IN/CHECK-OUT:
Check in time is 3:00pm and check out time is 12:00 noon.

Joan Medland | Director of Sales | Homewood Suites by Hilton-Houston Clear Lake | 401 Bay Area Blvd., Houston, Texas 77058 | P: 281-486-7677 | Fax: 281-486-1665

Houston Deployment Schedule



- Unlike California, we will not need to introduce margin into the schedule for fog. Therefore, we have a much firmer schedule.
- 2 Sep - Transit to Houston
- 3 Sep - Media Day
- 4 Sep - First possible science flight
- 1 Oct - Return to WFF
- The rest of the calendar will be constructed around these key dates.

Data Deadline for California – 15 June

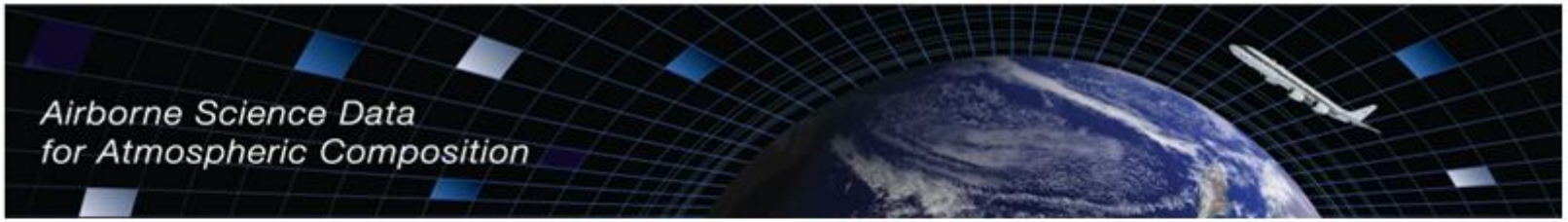
Any questions on format or upload should be addressed to Gao Chen (Gao.Chen@nasa.gov) or Ali Aknan (Ali.A.Aknan@nasa.gov)

It is important to indicate the final data status in your last revision note. In addition, the entry of "STIPULATIONS_ON_USE" should indicate that the data is open to public.

If there are any issues that will prevent you from meeting the data submission deadline, please contact Jim and Mary as soon as possible.

Data Synchronization (based on DLH data) will still be an issue for P-3B investigators.

Other Planned Publications



DISCOVER-AQ

Deriving Information on Surface Conditions from COlumn and VERtically Resolved Observations Relevant to Air Quality

Baltimore-Washington, D.C. 2011 | California 2013 | Texas 2013 | TBD 2014

- Data Archive: DISCOVER-AQ ArcView
- Interactive Flight Tracks & Time / Profile Data Plotter UPDATED!
- P3-B Profile Summaries - Percentiles Plots
- P3-B Merged Data: Extract / Download one or more variables UPDATED!
- P3-B Aircraft Forward / Nadir Videos NEW!
- PODEX Datasets Links NEW!
- Submitted and Planned Publications NEW!
- Reports: Outlook / Flight / Status / QuickLook
- Flight Profile Summary
- Flight / Profile Times: P3-B / B200

Recent Activities

- DISCOVER-AQ Team Meetings / Presentations / Telecons UPDATED!
- California Site Survey Report (16-19 July 2012)

Flight Tracks: NASA P3B, B200

P3-B » Click here to download *.KMZ file (ALL Flights)*

B200 » Click here to download *.KMZ file (ALL Flights)*

Other Planned Publications

Airborne Science Data for Atmospheric Composition

Submitted & Planned Publications

A. Manuscripts Submitted to *Journal of Atmospheric Chemistry*

Processes Impacting NEar-Surface Atmospheric Pollutants (PINESAP):

1. Nocturnal isoprene declines in a semi-urban environment , *David Doughty* , Final decision accept
2. Bay Breeze Influence on Surface Ozone at Edgewood, MD During July 2011 , *Ryan Michael Stauffer* , Final decision accept
3. Estimating surface NO2 and SO2 mixing ratios from fast-response total column observations and potential application to geostationary missions , *Travis Knepp* , Editor Assigned
4. Chemical composition and concentration of particulate matter and volatile organic compounds during a bus strike in Ottawa, Canada , *Jose D Fuentes* , Revise
5. Processes controlling the vertical distribution of biogenic hydrocarbons and oxidants within a mixed deciduous forest , *Wai-Yin Stephen Chan* , Revise
6. Modeling the fate of biogenic volatile organic compounds, their reaction products, and oxidants in a forest canopy , *Wai-Yin Stephen Chan* , Revise
7. Evaluation of NAQFC Model Performance in Forecasting Surface Ozone during the 2011 DISCOVER-AQ Campaign , *Gregory George Garner* , Final decision accept
8. Ozone Correlations Between Upper Air Partial Columns and the Near-Surface at Two Mid-Atlantic Sites during the DISCOVER-AQ Campaign in July 2011 , *Douglas K. Martins* , Under review
9. Effects of Local Meteorology and Aerosols on Ozone and Nitrogen Dioxide Retrievals from OMI and Pandora Spectrometers in Maryland, USA during DISCOVER-AQ 2011 , *Andra Jenn Reed* , Final decision accept
10. Bay Breeze Climatology at Two Sites along the Chesapeake Bay from 1986-2010: Implications for Surface Ozone , *Ryan Michael Stauffer* , Under review
11. Spatial and temporal variability of ozone and nitrogen dioxide over a major urban estuarine ecosystem , *Maria Tzortziou* , Final decision accept
12. Ozonesondes Climatology and Satellite Product Evaluation: Tropospheric Ozone in the Mid-Atlantic U.S. from 2005-2010 , *Caroline P. Normile* , Under review
13. Ozone Profiles in the Baltimore-Washington Region (2006-2011): Satellite Comparisons and DISCOVER-AQ Observations , *Anne M Thompson* , Revise

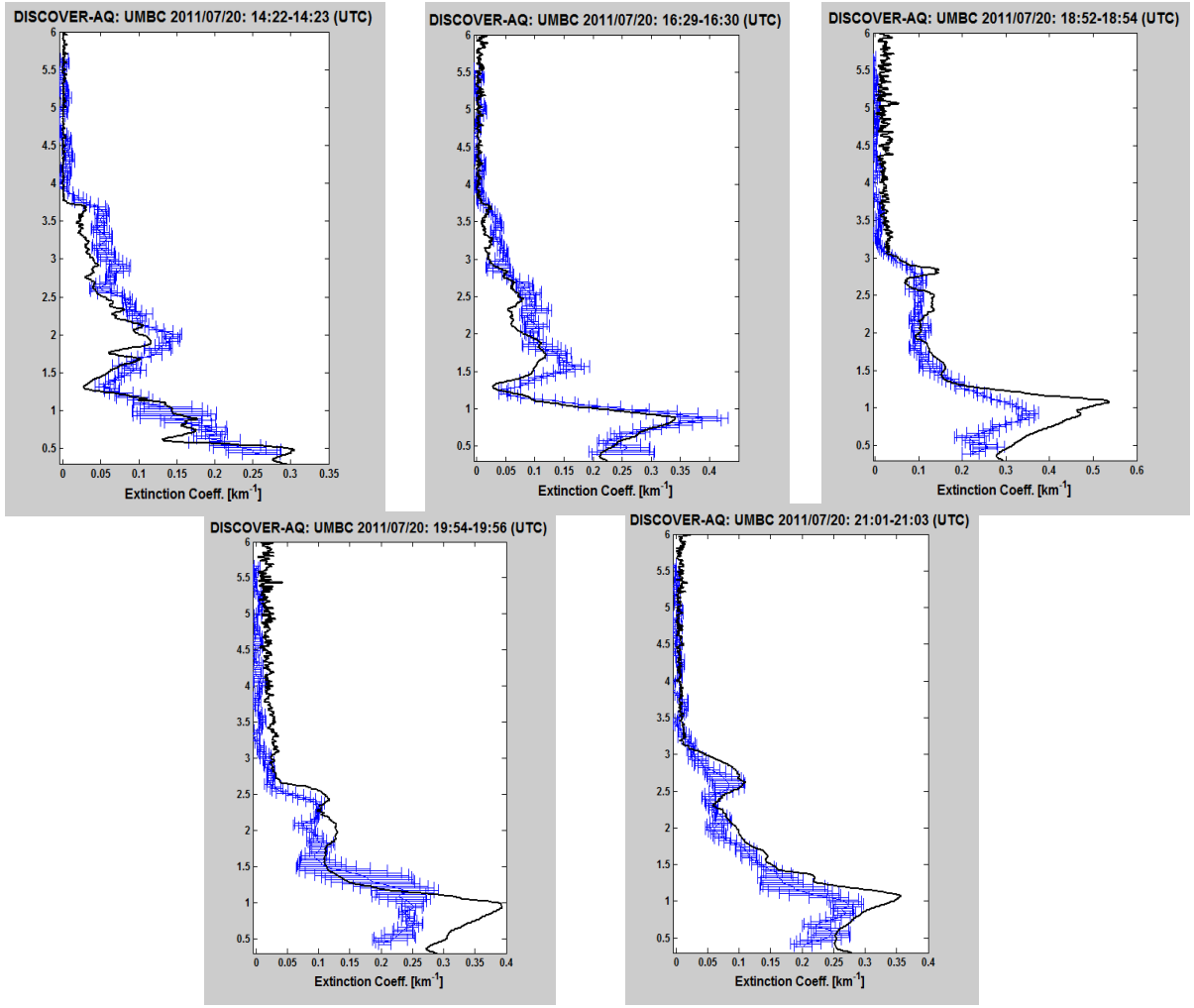
B. Planned Manuscripts

1. Evaluation of Extinction Profiles and Aerosol Optical Depth from Multisensor Data in the Baltimore-Washington

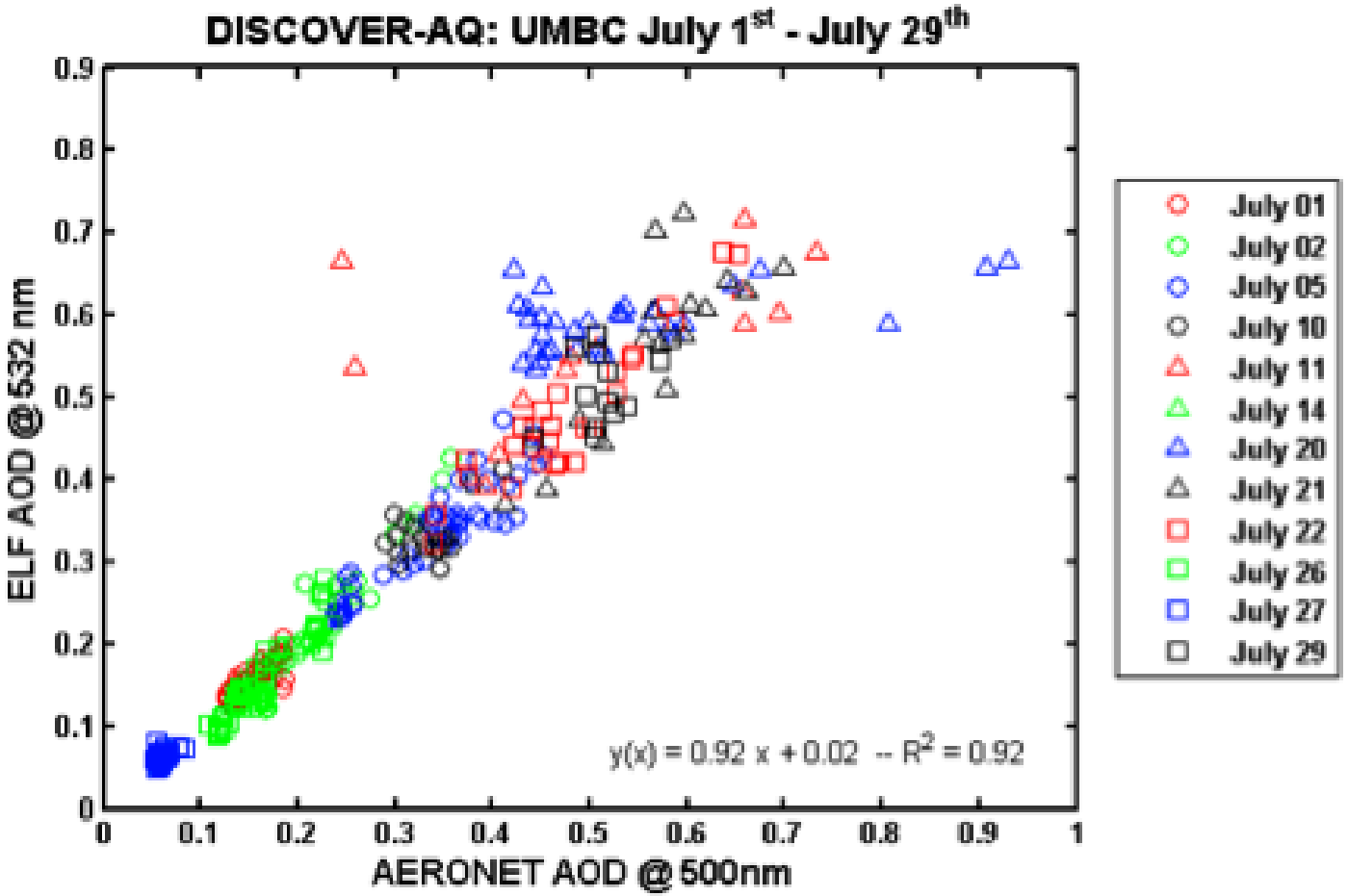
Evaluation of DISCOVER-AQ extinction profiles and WRF-CHEM

Raymond Hoff, Melanie Follette-Cook, Ken Pickering, Richard Ferrare, Raymond Rogers, Mike Obland, Chris Hostetler, John Hair, Leigh Munchak, Brent Holben, Timothy Berkoff, Ruben Delgado, and Patricia Sawamura

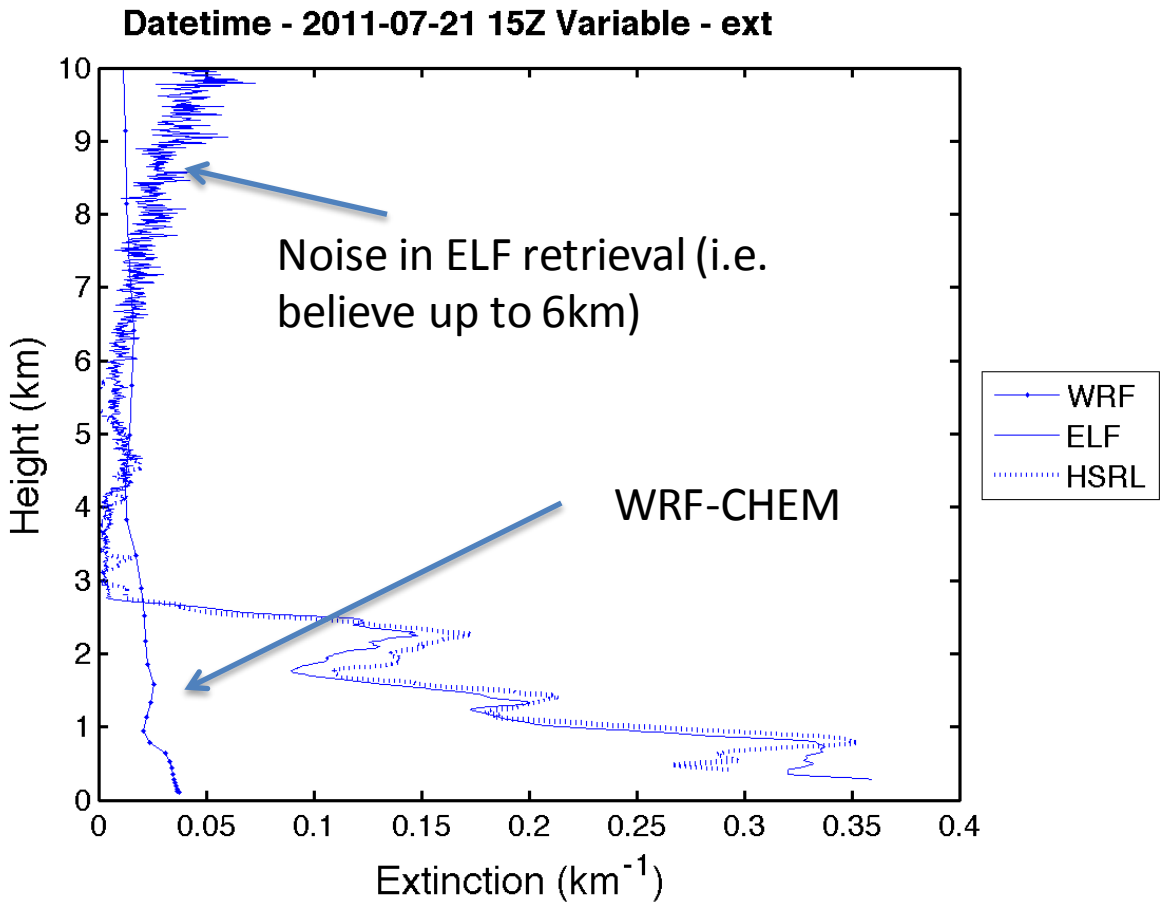
UMBC lidar extinction profiles agree with HSRL overpasses



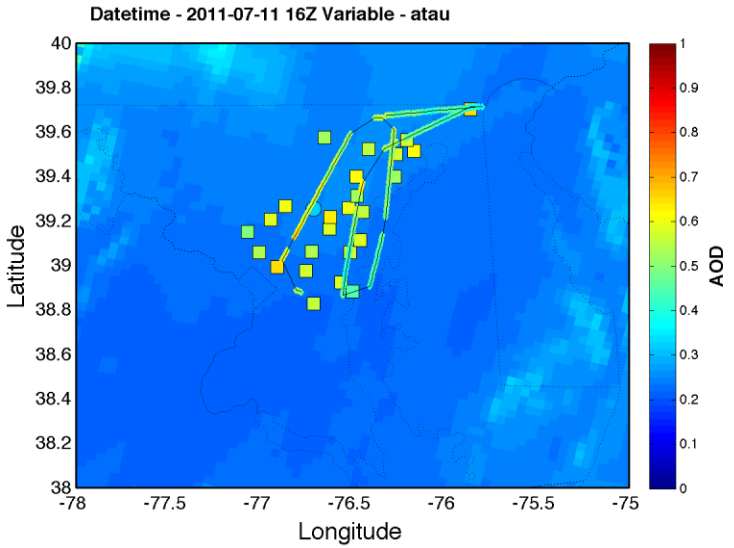
Lidars agree with Aeronet

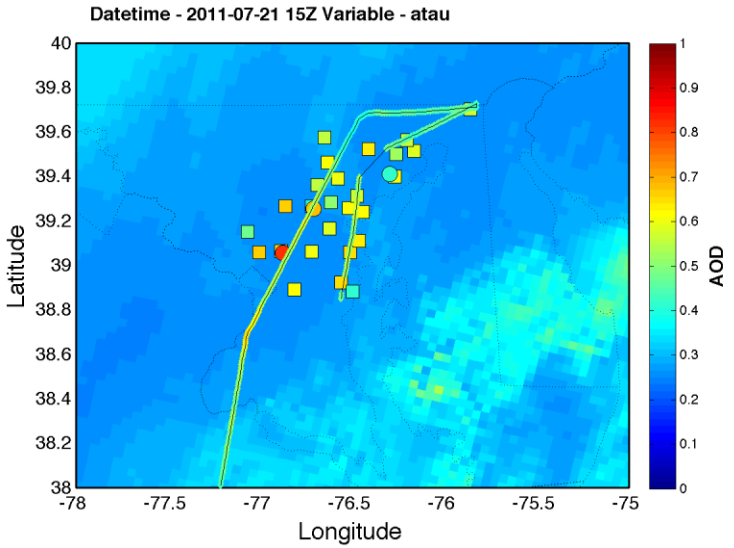


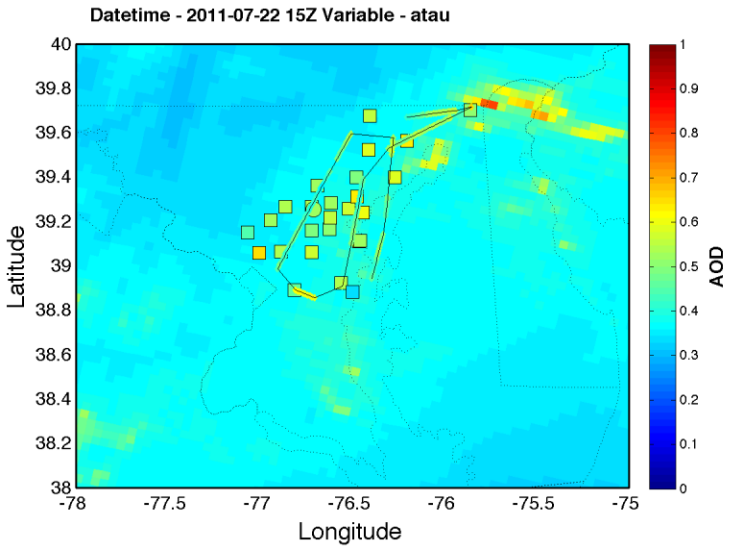
Model badly underpredicts extinction

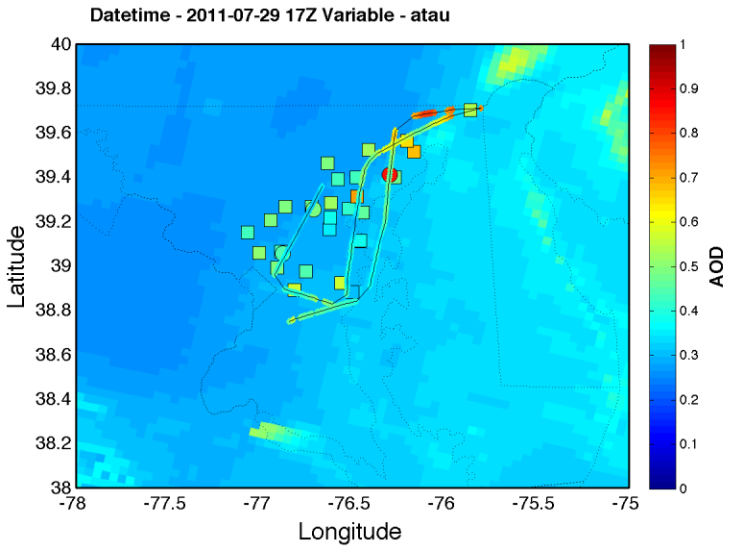


The model underpredicts AOD









Conclusions

- DISCOVER-AQ has a unique calibrated data set of extinction profiles
- WRF-CHEM underpredicts $SO_4^=$ badly, extinction very badly, and gets AOD better
- It does this by overpredicting the free tropospheric extinction which compensates for the PBL woeful underestimation
- The WRF profile is just wrong.

Trying to get papers out

Evaluation of Extinction Profiles and Aerosol Optical Depth from Multisensor Data in the Baltimore-Washington DISCOVER-AQ Experiment and Comparison with WRF/CHEM

Raymond Hoff*[1], Melanie Follette-Cook[2], Ken Pickering[2], Richard Ferrare[3], Raymond Rogers[3], Mike Obland[3], Chris Hostetler[3], John Hair[3], Brent Holben[4], Timothy Berkoff[1], Ruben Delgado[1], and Patricia Sawamura[1]

[1] Physics Department and Joint Center for Earth Systems Technology, University of Maryland, Baltimore County, 1000 Hilltop Circle, Baltimore, MD 21228
hoff@umbc.edu 410-455-1943

[2] Goddard Space Flight Center, Greenbelt, MD

[3] Langley Research Center, Hampton, VA

Next month: Patricia Sawamura will brief on her thesis "Retrieval of microphysical properties of aerosols from a hybrid multiwavelength lidar dataset"